

Physician's Guide to Managing Potential Rabies Exposures

Although rabies has been in the United States for centuries, the dynamics of rabies in the animal populations has changed dramatically in the last 50+ years. Vaccination campaigns and other rabies control programs initiated in the 1940s and 1950s resulted in a major decline of rabies in domestic animals. For example, rabies in dogs has declined from 6,949 cases in 1947 to 89 in 2001. As the decline in domestic animal rabies has occurred there has been a subsequent increase in the occurrence of rabies in the wild animal populations. In 2001, more than 93% of the 7,437 cases of reported rabies in animals were in wild animals compared with 6.7% in domestic species. The occurrence of rabies in animals in 2001 was in the following descending order raccoons, skunks, bats, foxes, cats, dogs, and cattle.¹

The vaccination and control programs, along with public health education, have contributed to reducing the transmission of terrestrial rabies to humans. However, human cases of rabies continues to occur in the U.S., mostly from bat-associated variants. Traditional means of rabies control hasn't been useful, thus far, for bats and bat bites often go unnoticed, are ignored, or are forgotten. Since 1990, 24 of 26 human cases of indigenously acquired rabies were associated with bat variant rabies. Only two of the cases reported a definite history of a bite.¹

Mississippi has not had a terrestrial case of rabies in almost 40 years.² Even so, at least two-three bats are laboratory confirmed with rabies every year. Regardless of the small number of rabies cases confirmed, the MSDH Public Health Laboratory (PHL) tests between 800 and 1000 animals each year for rabies. Interestingly, every state bordering MS reports terrestrial animal and bat rabies. The biggest threat to MS's terrestrial rabies free status is Alabama because of the lack of a natural border separating the states. Since 1997, eight raccoons, six bats, and one dog have been reported as rabid from Mobile County, AL which is directly adjacent to Jackson County, MS.³ The MSDH is working in cooperation with the USDA Wildlife Service to increase rabies surveillance among road-killed raccoons in Hancock, Harrison, and Jackson Counties. So far, there have been no rabies positive specimens identified.

Rabies remains a highly fatal but preventable disease. The exposure type, animal species involved, circumstances of the exposure, and geographic location can all be used to determine the indication for postexposure management of humans and animals potentially exposed to rabies.

Proper use of rabies immune globulin and vaccine are essential to avoid unnecessary exposure to vaccine and to avoid the large expenditure (over \$1,000 per series) associated with postexposure prophylaxis (PEP). However, when used according to public health recommendations, the vaccine is highly successful in preventing clinical manifestations and death from rabies.

The following guidelines are summarized from the documents *Compendium of*

*Animal Rabies Prevention and Control, 2003*⁴ and *Human Rabies Prevention—United States, 1999: Recommendations of the Advisory Committee on Immunization Practices (ACIP)*⁵. These documents can be found in their entirety on the MSDH website. This summary is offered to assist the clinician in determining the need for PEP and for providing proper follow-up in the event of an exposure to rabies. Consultation with nurses, veterinarians and physicians on individual cases is available through the Division of Epidemiology at the MSDH by calling 601-576-7725.

References:

1. Krebs J, Noll H, Rupprecht C, Childs J. Rabies surveillance in the United States during 2001. *J Am Vet Med Assoc* 2002; 221 (12); 1690-1701.
2. Brackin B. Evidence of New and Serious Enroachment of Raccoon Rabies. *Mississippi Morbidity Report* 1998; vol. 16; no. 9.
3. Personal communication. Sharon Thompson, Alabama Department of Health.
4. The NASPHV Committee. Compendium of Animal Rabies Prevention and Control, 2003. *MMWR* 2003; Vol. 52 (RR-5).
5. Centers for Disease Control and Prevention. Human Rabies Prevention – United States, 1999: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1999; 48 (No. RR-1).